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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Robert W. Cantwell

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EXAMINER

ROBERTS, BRIAN S

ART UNIT

PAPER NUMBER

2419

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/922,412	CANTWELL, ROBERT W.	
	Examiner	Art Unit	
	BRIAN ROBERTS	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- The finality of the Office Action dated 05/13/2009 is withdrawn.
- Claims 1, 5-17, and 19-22 remain pending.

Claim Objections

Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 16 is objected to because of the following informalities:

- Claim 16 line 4 "control (MAC address" should read --control (MAC) address--
Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 5-17, 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- In reference to claim 1, 6, 7-9, 12, 17, 19, 21, 22

In claim 1, lines 8-9, for the phrase "the Ethernet data frames" it is unclear whether the antecedent basis is - the Ethernet data frames received from the ports or the Ethernet data frames containing the port identifier. To clarify this ambiguity, the Examiner recommends changing "the Ethernet data frames" to "the Ethernet data frames containing the port identifier" or something similar. Similar problems exist for claims 6, line 7; claim 7, line 7; claim 8, line 7; claim 9, line 7; claim 12, line 6; claim 17, line 8; claim 19, line 8; claim 21, line 8 and line 14; and claim 22, line 8.

- In reference to claim 6

In claim 6, lines 2-3, the phrase "a switch having a plurality of ports for receiving data frames from a plurality of ports and switching the data frames to a plurality of ports" is ambiguous because of its multiple recitations of the phrase "a plurality of ports". The Examiner recommends changing this phrase to "a switch for receiving data frames from a plurality of ports and switching the data frames to another plurality of ports" or something similar. For the purpose of examination, the Examiner assumes that the other recitations of "the plurality of ports" in the claim refer to the plurality of ports upon which the frames are received. If this is not so, then these other recitations should be modified to reflect to which plurality the phrase refers. Similarly, in claim 7, line 3, and claim 8, line 3, "frames to a plurality of ports" should be "frames to another plurality of ports".

Claim 6 recites the limitation "the data" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, the examiner assumes "the data" should read --the data frames--

- In reference to claim 7

In claim 7, line 11, it is unclear to which "unique port identifier" recited in the claim (there is one unique port identifier for each frame) the phrase "the unique port identifier" refers. Also, since the subscriber access multiplexer is physically separate from the switch, the subscriber access multiplexer cannot insert the very same unique port identifier into the frames as the switch, as called for by the claims. Thus, the Examiner assumes the phrase "the unique port identifier" should be "a unique port identifier".

In claim 7, line 16, it is unclear whether the phrase "the unique port identifier" refers to the identifier added by the switch or the identifier added by the subscriber access multiplexer.

- In reference to claim 14, 20

It is unclear how the steps of claims 9 and 14 relate. Claim 9 appears to refer to steps that are performed at the transmission side of a system, whereas claim 14 appears to refer to steps performed at a reception side of a network. Applicant should clarify where each of the steps are performed. Claim 20 has a similar issue.

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- In reference to claim 15, 21

Claim 15 recites the limitation "the transmitted data" in line 6. There is insufficient antecedent basis for this limitation in the claim because the claim does not contain a step of transmitting the data.

It is unclear how the steps of claims 9 and 15 relate. Claim 9 appears to refer to steps that are performed at the "switch" side to form a transmission stream, whereas claim 15 appears to refer to steps that are performed at the "subscriber access multiplexer" side to form an additional transmission stream. Since both of these series of steps are directed toward the development of a transmission stream, respectively, it is unclear how these steps form part of a single method. Claim 21 has a similar issue.

- In reference to claim 21

Claim 21 recites the limitation "the transmitted data" in line 15. There is insufficient antecedent basis for this limitation in the claim because the claim does not contain a step of transmitting the data.

- In reference to claim 22

Claim 22 recites the limitation "the data stream" in line 11. There is insufficient antecedent basis for this limitation in the claim.

- In reference to claim 5, 10-11, 13, 16

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Claims 5, 10-11, 13, and 16 are rejected as being dependent on a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-10 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurren et al. (US 6788681) in view of Arslan et al. (US 6707789).

- In reference to claim 9, 10

Hurren discloses a method comprising: receiving with an ADM data frames from a plurality of Ethernet ports (col. 2, lines 19-24, where ingress IPT card receives Ethernet frames, and col. 7, lines 21-23, where the IPT cards are ADMs), each data frame including header information (col. 2, lines 24-28, where each Ethernet frame includes MAC addressing information, see also col. 12, lines 38-41, where it is inherent that frames that comply with the Ethernet standard contain headers); adding a unique port identifier to the header information in each data frame from each Ethernet port, without removing header information (col. 12, lines 38-41, where the IPT header is prepended to the Ethernet frame, i.e. added to the header without removing header information, and Fig. 4, col. 14, lines 29-35, and col. 14, line 66-col. 15, line 10, where the IPT header includes source port information, see also col. 2, lines 28-46 and col. 12,

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lines 28-37), in order to identify the Ethernet port from which each data frame came (col. 11, lines 43-56, where the source port field identifies the virtual port, i.e. Ethernet port, upon which the packet enters the IPT network); multiplexing the data frames from the plurality of Ethernet ports into a single data stream for transmission by a synchronous transmission medium (col. 2, lines 19-24, where SONET is a synchronous transmission medium).

Hurren does not expressly disclose that the ADM is a switch; however, Arslan discloses constructing an ADM using a switch (col. 1, lines 12-29, esp. lines 28-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the ADM of Hurren using a switch, as disclosed in Arslan in order to construct the ADM in a known manner.

- In reference to claim 13

The combination of Harren and Arslan teaches a system and method that covers substantially all limitations of the parent claim. Hurren further discloses converting the single serial data stream into synchronous optical network (SONET) optical signals for transmission. (col. 2, lines 19-24, where SONET is a synchronous transmission medium).

- In reference to claim 14

The combination of Harren and Arslan teaches a system and method that covers substantially all limitations of the parent claim. Hurren further discloses receiving the

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single serial data stream at an egress IPT card (col. 2, lines 19-24, where SONET is a synchronous transmission medium); demultiplexing the single serial data stream into data frames from each Ethernet port; and routing the data frames from each Ethernet port based on the unique port identifier. (column 16 line 56 - column 17 line 2)

- In reference to claim 15

The combination of Harren and Arslan teaches a system and method that covers substantially all limitations of the parent claim. Harren further discloses receiving data from a plurality of sender nodes in a network (col. 2, lines 19-24, where ingress IPT card receives Ethernet frames, and col. 7, lines 21-23, where the IPT cards are ADMs); inserting a unique port identifier based on an IP address of the sender node of the data (col. 12, lines 38-41, where the IPT header is prepended to the Ethernet frame, i.e. added to the header without removing header information, and Fig. 4, col. 14, lines 29-35, and col. 14, line 66-col. 15, line 10, where the IPT header includes source port information, see also col. 2, lines 28-46 and col. 12, lines 28-37); and multiplexing the data into a single serial data stream for transmission (col. 2, lines 19-24, where SONET is a synchronous transmission medium); receiving the transmitted data at an egress IPT card (col. 2, lines 19-24, where SONET is a synchronous transmission medium) and demultiplexing the data into data from each sender node; and switching the demultiplexed data based on the unique port identifier to the plurality of Ethernet ports. (column 16 line 56 - column 17 line 2)

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- In reference to claim 16

The combination of Harren and Arslan teaches a system and method that covers substantially all limitations of the parent claim. Harren further disclose receiving the single serial data stream at an egress IPT card (col. 2, lines 19-24, where SONET is a synchronous transmission medium) and routing the data frames to a destination network node based on the unique port identifier, a media access control (MAC) address, and an internet protocol (IP) address in each data frame. (column 16 line 56 - column 17 line 2)

Allowable Subject Matter

Claims 1, 5, 6-8, 12, 17, and 19-22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are:

- US 2002/0146026

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN ROBERTS whose telephone number is (571)272-3095. The examiner can normally be reached on M-F 10:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL RYMAN can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BSR
08/18/2009

/Daniel J. Ryman/
Supervisory Patent Examiner, Art Unit 2419